

8.—CONTRIBUTIONES FLORAE AUSTRALIAE OCCIDENTALIS VII.

(With Three Plates II.-IV.)

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Philotheca miniata, Gardner, n. sp. (Plate II.)

Frutex ramosus, ramis numerosis divaricatis. Foliis crassis, lineari-clavatis, glanduloso-verrucosis subtiliter velutinellis, demum glabris; floribus breviter pedunculatis, 1-3 terminalibus; sepalis late orbicularibus, pubescentibus, valde inaequalibus, marginibus ciliolatis; petalis miniatis, oblongo-ovatis; synandrium violaceo-pilosum; staminodiis pilosis, carpellis paucetomentosis, obtusis; stylo alte immerso e longe exserto.

Frutex circ. 2m. altus; folia 10-15mm. longa, sepala variabilia ad 9mm. longa, petala 2.1 cm. long.; synandria 2.7 cm.; stylus 3.0 cm.

Hab. in distr. Austin prope Cue, in rimosis lapidosis collibus, fl.m. Jun. Jul. (C. A. Gardner, Jul. 1927. Granite plateau east of Cue, W. D. Campbell, Jun. 1902.)

This species is certainly very closely related to *P. ericoides* (Drumm. et Harv.) F. v. M. It is, however, a much larger shrub with strongly divaricate branches leafy only on the ultimate twigs, and may be further distinguished as follows:—The leaves are larger and more clavate, white tomentose unless very old, with a broad apical reddish gland. The flowers are much larger. The calyx is composed of very unequal sepals which are usually broader than long, dark in colour, but concealed beneath a close white tomentose pubescence. The petals are similar in shape to those of *P. ericoides*, but are an intense orange-cinnabar in colour, and are ciliate in the upper half. The staminal tube is a rich scarlet in colour becoming violet upwards, and the tips of the staminodes are glabrous but concealed within the intricate hairs which envelop the tube. The carpels are tomentose on their inner faces.

Philotheca ericoides is insufficiently described in Bentham's *Flora Australiensis*. It is known only from the slopes of White Peak, a prominent hill to the north of Champion Bay. This plant, of which only a small colony is known, is 1 to 2½ feet in height, with strictly erect branches, the perfectly glabrous leaves being crowded along the branches. The sepals are ovate, more or less equal, and entirely glabrous. The petals are yellowish-white, rather prominently keeled, and quite glabrous. The staminal tube is white in the lower half, and violet above. The carpels are quite glabrous, and the staminodes are hairy to their extremities. The flowers are about two-thirds the size of those of *P. miniata*.

A variation in colouring is known in *P. Hassellii*, another closely related species of the eastern sand heaths. Although the petals are normally yellow, red-flowered forms are known, particularly towards the western boundary of its habitat. In contrasting *P. ericoides* and *P. miniata*, however, we have

an extraordinary difference in habit, leaf arrangement and vestiture, and in the indumentum of the flowers. The structural differences are confined to the calyces, and, to a less extent, to the leaves.

Darwinia carnea, Gardner, n. sp. (Plate III. A-G.)

Fruticulus ramosus dilatatus, ramulis divaricatis. Foliis congestis, oppositis, decussatis, glabris, coriaceis, lineari-lanceolatis, carinatis, apice acutis. Capitulis globosis amplis nutantibus; receptaculo glabro. Involucris phyllis amplis ovatis glabris obtusis, flavo-carneis, persistentibus. Bracteolis late linearibus acutis, supra concavis; calycis-tubo cylindrico exsuleo, indurato, laevi, lobis brevissimis suborbicularibus; petalis albis ovato-lanceolatis, obtusis, calycis lobis triplo longioribus; antheris globosis; staminodiis lineari-spathulatis, apice nigro-glandulosis, stylo sub apice conspicue barbato. Ovula 2.

Fruticulus 20-30 cm. altus. Folia 6-1.0 cm. longa, 1-1.3 mm. lata; Bractee ad 3 cm. long. Calycis tubus 4 mm. altus, ad 2 mm. latus, lobi ca 1.5 mm. longi ac lati.; petala 4 mm longa, 1.6 mm. lata. Stamina 1.5 mm. longa; stylus 13.5 mm.

Hab. in distr. Avon septentrionali inter Mogumber et Nova Norcia, in collibus glareosis, fl. mens. Decemb. (C. A. Gardner, 1385.)

This new species belongs to those species of the Sect. Genetyllis which have drooping heads with the involueral bracts coloured and longer than the flowers which they enclose. The concave keeled leaves place it next to *D. speciosa*, from which it is very different. The involucres are not the same reddish green colour; there are many more flowers in the head. The calyx-tube is not ribbed, and the lobes obtuse and very much shorter. There are several other important differences, such as the length of the bracteoles and the acute, not obtuse, leaves. There is also a resemblance to *D. acerosa* W. V. Fitz., but the organs are all very much larger, and the type of inflorescence is different.

Cryptandra connata, Gardner, n. sp. (Plate III. H-L.)

Frutex divaricato-ramosissimus, ramis primariis erectis, secundariis late patentibus, ramulis spinescentibus. Foliis fasciculatis, linearibus vel lineari-lanceolatis, omnino revolutis, subacutis vel obtusis, supra glabratis subtus albo-pubescentibus. Bracteis latissimis, fuscis, glabris, marginibus ciliolatis, calycis tubo brevioribus. Calycis tubo glabro, ovoideo-conico, basi inflato, e lobis erectis, apice acutis ipso pauce barbatis, utrinque glabris; petalis minutis, unguiculatis cucullatis, calycis limbi semiaequantis; disco crassiusculo ad basin ovarii; ovario hirsuto; stylo elongato trifido.

Frutex 2-3 m. alt.; folia 2-3 mm. long.; bractee circ. 2.5 mm. long.; calyx 5.5-6.5 mm. long.; lobi 2 mm. long.; petala .8 mm. long.

Hab. in distr. Austin prope Sandstone, in apertis lutosus flor. mens. Jul. (C. A. Gardner, July, 1927.)

The new species, belonging to the Section *Wichurea* (*Wichurea*, Nees), shows also some points of similarity with *Discaria*. It is large for a Western *Cryptandra*, and its diameter exceeds its height. The branches are widely spreading and intricate, the whole shrub forming a dense impenetrable mass of up to 10 feet in diameter; the short alternate branchlets terminate in thorns. The small heath-like leaves appear to vary considerably in shape and size, from linear to lanceolate, from sub-acute to very obtuse, but all have closely revolute margins. The flowers are remarkable for the genus, in that the calyx-lobes are erect and closely connivent and never expand.

In this character the flower reminds one somewhat of *Conostephium*. The acute calyx-lobes are shortly bearded at the apex. The small hood-shaped petals have slender claws, and quite conceal the anthers. The disc is basal, with the ovary slightly immersed in it. The ovoid ovary is hirsute or pilose with long spreading hairs except the upper third which is glabrous, and the slender glabrous style has a three-lobed stigma. In its connivent or almost connate calyx-lobes the new species would appear to differ from any other species known, as far as I can ascertain. This character gives the flower an ovoid-conical shape. It appears to be related to *C. arbutiflora*, but is perhaps best placed immediately following *C. nudiflora*. The flowers are of two colours, and appear to be constant in the individual plants: one is pure white, and the other a claret-coloured purple.

Melaleuca Steedmanii, Gardner, n. sp. (Plate III. M-O.)

Frutex ramosus divaricatus. Foliis oppositis glaucescentibus tenuiter coriaceis, glanduloso-punctulatis, obovatis vel oblanceolato-oblongis, apice interdum recurvo, plus minusve obtusis, basin versus in petiolulum angustatis, uninerviis. Floribus ad basin ramulorum lateralium insertis, spicam brevem formantibus; ramulis apice foliis novellis portantibus; calyce tubo glabro, urceolato, basi dilatato, rhachi inserto, e lobis hemisphaericis rotundis; petalis purpureis concavis, suborbicularibus, diffusis, ex ungue breviter phalangibus purpureis polyandris, unguis petalorum brevioribus, filamentis erectis densibus; stylo crasso, stigmatate peltato; fructu sessile late urceolato, lobis persistentibus.

Folia 12—18mm. longa, 2.5—3.5mm. lat. Calycis tubus 4mm. alt., 6mm. lat., lobi 3 × 4mm.; petala 10mm. long., 7mm. lat.; phalangia 13mm. long.; stylus circ. 1.5cm. long.; fructus circ. 9mm. diamet.

Hab. in distr. Irwin a Watheroo septentrionem versus, fl. m. Sept.-Oct. (H. Steedman, Septem. 1926.)

Apparently a large divaricately branched shrub. Leaves opposite, obovate or oblanceolate-oblong, not linear, very shortly petiolate, black-dotted with fine spots, not glandular-dotted, rather thick, blue-green, flat or the margins incurved, the midrib alone prominent. The flowers are in short loose spikes at the base of the smaller branchlets, already leafy when the flowers expand. The large and conspicuous flowers are an intense crimson, and the petals very concave. The staminal bundles are rather large, but the claws are shorter than the petals, and the filaments are numerous, and mostly inserted on the inner faces of the bundles. A few are marginal. The fruit is widely urceolate, five-angled, with the thickened parts of the calyx-lobes persistent.

This species is very close to *Melaleuca fulgens* in the floral structure, but the staminal bundles are shorter, not exceeding seven lines in length, and the position of the filaments is different, besides being smaller, they are erect from the spreading bundles, and crowded along the inner faces. The fruit is similar in some respects, but is much smaller, with five distinct faces on the sides, and the lobes are persistent. The leaves are entirely different.

It is equally close to *M. radula* which it much resembles in everything but the colour of the flowers, although here again the leaves are very different, and the filaments are fewer, and the calyx-lobes of the fruiting specimens are a further distinction. The seeds appear to be more those of *M. radula* than of *M. fulgens*. Although the flowers are red, and the bundles about half an inch long, this species, on account of its stamens, should be placed near *M. radula*.

I have named this species after Mr. H. Steedman, of the Zoological Gardens, Perth, whose untiring enthusiasm has been responsible for the introduction of several of our little known plants into cultivation.

Eucalyptus ~~carnea~~^{Carnei}, Gardner, n. sp. (Plate IV.)

Arbor robusta ad 10 m. elata, e cortice nigro-tessellata ad basin, vulgo "Blackbutt" nuncupata, supra cinereo-dealbata, ramis laxis, pendulis, ramulis primum glaucis demum lucido rubris. Foliis primariis non visis. Foliis maturis alternis subfalcatis, crassis, subopacis, utrinque glaucentibus. Floribus 6 vel 7 sessilibus umbellatis. Pedundulis crassis, cuneatis, albido-cinereis, circiter tam amplis quam longis; calyce oblongo-turbinato sive tuncato-ovoideo tenuiter compresso, duabus strictis oppositis costis habente, et minus conspicuis duabus costis intermediis, tubo calycis fere duplo majori quam operculum; operculo ovoideo-hemispherico obtuso; staminibus maturis ignotis, pallidis, inflexis, antheris longitudinaliter aperientibus; fructu cylindrico truncato, longitudinaliter corrugato, fusco non lucido, margine elevata, albicante, valvis plus minusve inclusis.

Caulis 30-40 cm. diamet.; petiolus 1.4-2.0 cm.; lamina 8.0-11.0 cm. longa, 1.3-2.2 cm. lata.; pedunculus 1.2-1.3 cm. long., 8-9 mm. lat.; calycis tubo 6-7 mm. long.; 4.5-5 mm. diamet.; operculo 4-4.5 mm. long.; fructu 6 mm. long., 6 mm. lat.

Legi mense Julio 1927, in distr. Austin prope Sandstone, in collibus lapidosis, fl. mense (?) Aug. (C. A. Gardner.)

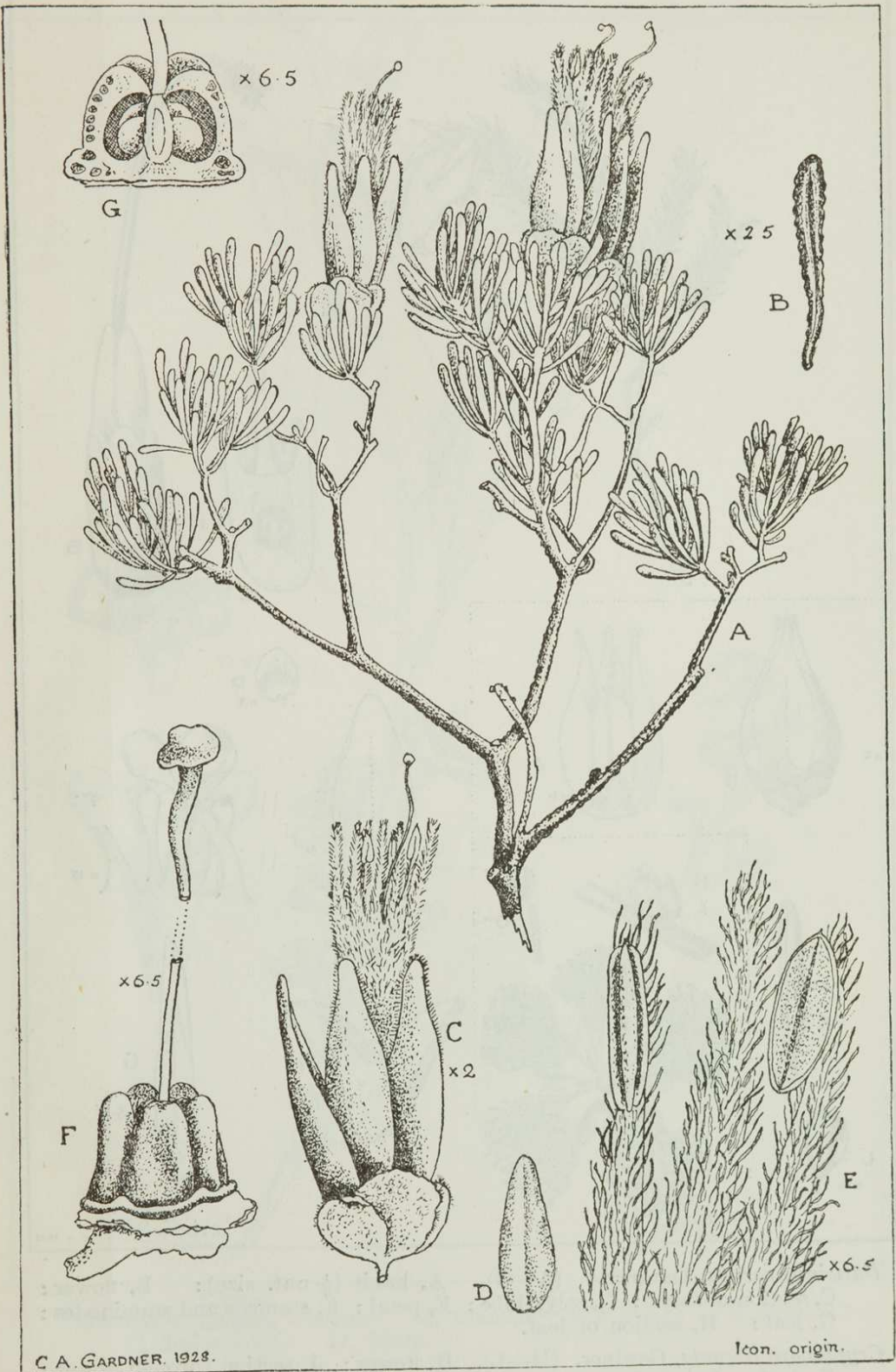
The new species is a typical Blackbutt of 20-30 feet in height, with a stout trunk tessellated at the base, the upper portions of the trunk and the branches being smooth and ashy-white in colour, occasionally warming to a yellow tint. The branches are spreading, and the glaucous angular branchlets are almost pendulous. The timber is a deep yellow-brown in colour, tough and dense. Occurring well within the territory of the Mulga Bush where *Eucalyptus* is very rare, this tree is a striking object in its habitat.

The glaucous angular branchlets, thick and wide peduncles, green-brown calyx-tube and warm orange operculum, together with the habit are vividly reminiscent of *Eucalyptus Stricklandi*, a species occurring far to the south, but the smaller unribbed operculum, and the very short perfectly straight sided and cylindrical fruit with included valves, render it quite distinct, among other features.

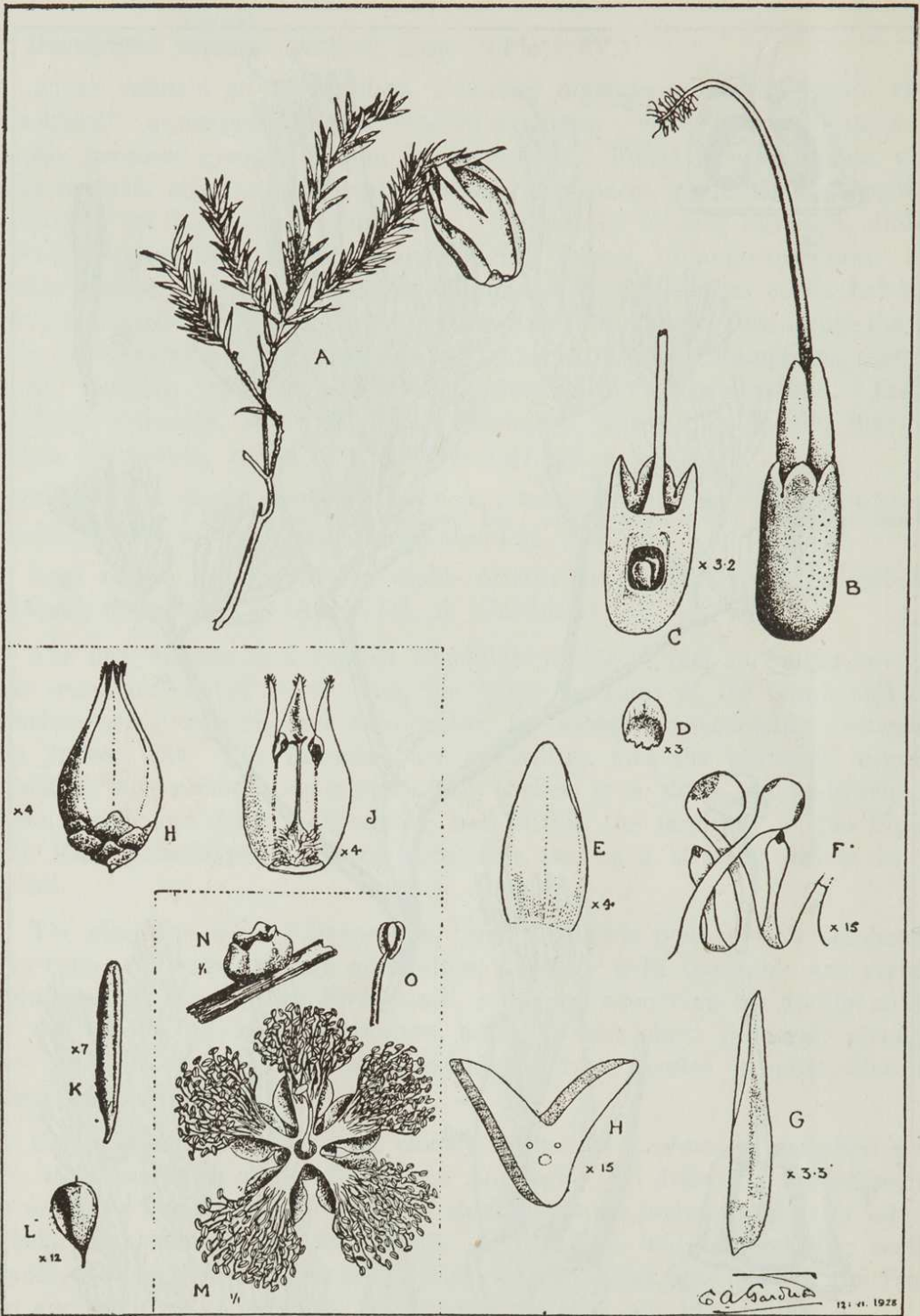
The species is perhaps most closely related to *E. dumosa*, a mallee common in the southern areas of Western Australia, and differs in the following characters:—The much flattened and thick glaucous peduncle, strictly lateral umbels, glaucous angular branchlets, smooth and wide operculum, sessile calyces with opposite angles resembling narrow wings, and also in the fruit. The angular pyramidal seeds also appear to bear out this affinity.

There is also an affinity with *E. grossa*, but there are many points of dissimilarity.

I have named this species in honour of Mr. W. M. Carne, Botanist and Plant Pathologist to the Department of Agriculture, and the first botanist to hold the position of President of the Royal Society of Western Australia.



Philotheca miniata, Gardner. A, habit : B, leaf ($\times 2.5$) : C, flower : D, petal, half natural size : E, details of stamens and staminodes : F, gynoecium : G, carpels in section ($\times 6.5$).

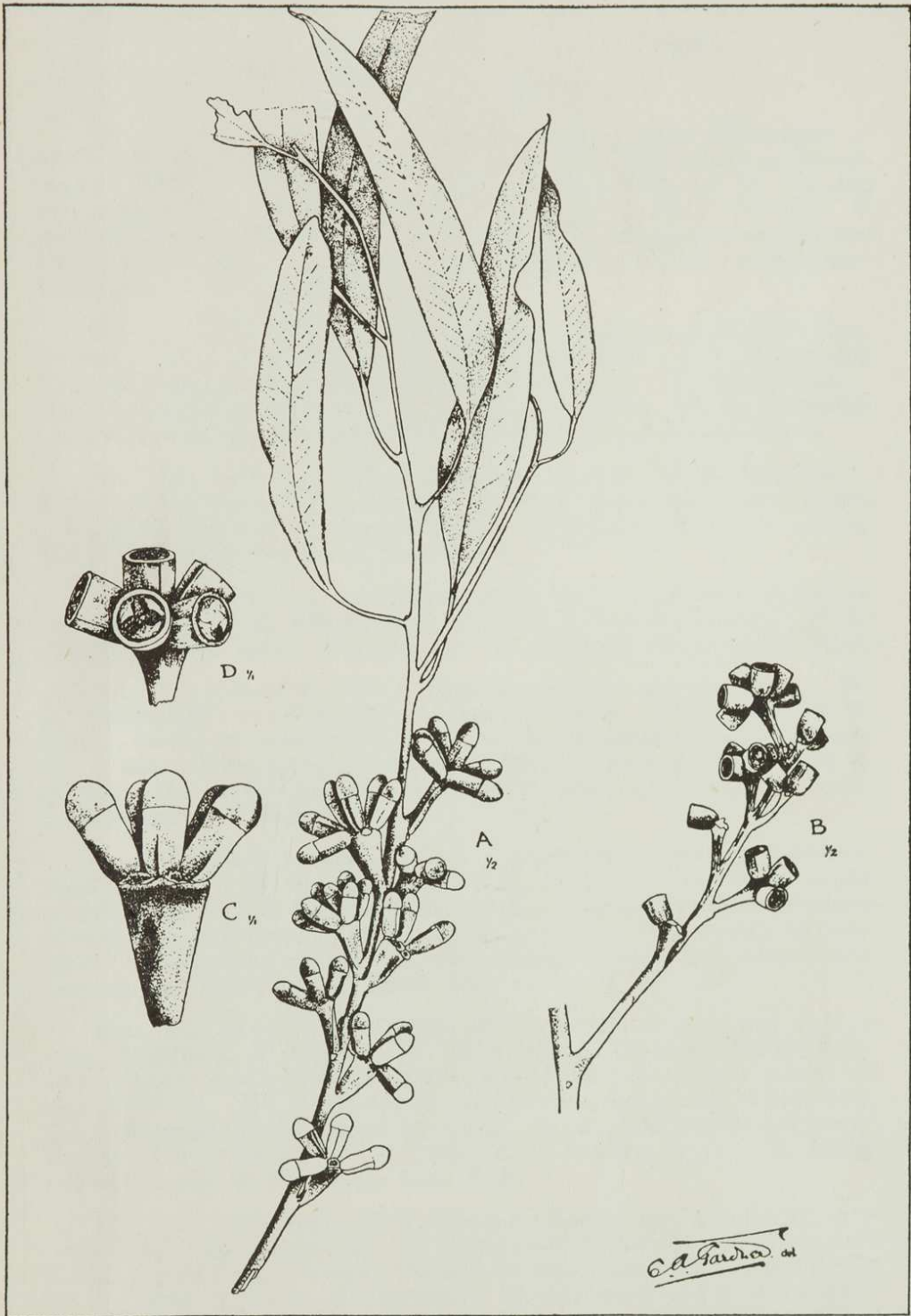


Darwinia carnea, Gardner. (A—G). A, habit ($\frac{1}{2}$ nat. size): B, flower: C, section of calyx: D, calyx-lobe: E, petal: F, stamens and staminodes: G, leaf: H, section of leaf.

Cryptandra connata, Gardner. (H—L). H, flower: J, section through flower; K, leaf: L, petal.

Melaleuca Steedmanii, Gardner. (M—O). M, flower: N, fruit: O, stamen.

G. A. Gardner 12. 11. 1928



Eucalyptus carnei, Gardner. A, branchlet with buds: B, fruits:
C, flower-buds: D, fruits.